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Examination of Preschool Educators' Implementation of Motor Activities

A Thesis Presented by

COLETTE M. LEGENDRE

Submitted to the College of Graduate Studies
Bridgewater State University
Bridgewater, Massachusetts

in partial fulfillment of the requirements for the Degree of

Master of Science

in Physical Education

August 2016

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Dr. Misti Neutzling (Chair)

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Dr. Jennifer Mead

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Acknowledgements

I would like to acknowledge the following people for the help and support that they provided throughout this process:

Dr. Peg LeGendre

Paul LeGendre

The support of the Cape Cod Museum of Natural History Staff and Volunteers

Dr. Sheehy

My committee: Dr. Neutzling, Dr. Eliason, and Dr. Mead

Abstract

This project was designed to obtain and analyze data pertaining to a teacher's understanding of movement education in a preschool program. The purpose of this research was to conduct a case study to examine a preschool educator's knowledge and use of motor activities in the classroom. The preschool teacher was observed and interviewed. The teacher was given a survey that included questions about aspects of motor development in preschool classrooms in early childhood centers, and whether professional development training in motor learning had been offered for early childhood educators.

Table of Contents

Introduction.....	6
Literature Review.....	9
Methods.....	19
Setting.....	19
Participants.....	19
Measurements	20
Procedure	22
Data Analysis	23
Results.....	26
Importance of Movement in Preschool.....	26
Teaching Practices for Motor Education in Preschools.....	29
Strategies to Design Developmentally Appropriate Activities in Early Childhood Programs	34
Discussion.....	37
Limitations	39
References.....	41
Appendices.....	45
A: Diagram of the Classroom	45
B: Early Childhood Rating Scale.....	46
C: Schedule for the classroom	47
D: Interview Questions	48
E: Survey.....	49
F: Pre-dispositions	52
G: Code Log.....	54
H: Research Memo and Data Chart Example.....	55
I: Lessons Learned about the Collection of Qualitative Data.....	56
J: Lessons Learned about Qualitative Data Analysis.....	61

Early motor development is the basis for all future motor skills. However, in early childhood centers there is a need for knowledge among educators in terms of understanding and developing motor skills (Bobbio, Gabbard & Cacola, 2009; Murata & Maeda, 2007). Childcare centers can either be public or private institutions for preschool education that follow state standards.

Early childhood educators are expected to have knowledge about child growth and development progress and patterns. Educators learn how to understand these patterns through professional development. In Massachusetts, childcare center teachers are certified by the State Department of Early Education and Care (EEC). While EEC certification requires a Child Psychology course, there is no specific mention of training in motor development (Department of Early Childhood and Care, 2011). Furthermore, a study by Robinson, Webster, Logan, Lucas, & Barber, questions whether early childhood educators know about motor programs or how to run a mastery climate movement program (Robinson et al., 2012). These authors see a need for understanding of the movement in the early childhood years in the educators' preparation. The educators' understanding of a child's growth and development will make it easier for them to apply movement in their classroom. (Robinson et al., 2012). It is important to look into the teaching practices in preschool settings in terms of teacher training in motor development, and how teachers create developmentally appropriate motor activities (Gagen & Getchell, 2006, Robinson et al., 2012).

Many aspects of motor development, such as crossing the midline, coordination, spatial awareness, and pincer grasp are important for a preschool child. Motor development provides a foundation for learning as muscle memories start to form.

Muscle memories are known as procedural memories, functions that do not have to be learned by conscious thought. Muscle memories are memories learned through every movement that we make and which through repetition become ingrained within us, developing muscle memories. However, if a child does not learn a skill in the correct way it can be hard to relearn the skill later when a teacher notices the skill is done incorrectly in a later grade (McMurray, Drysdale, & Jordan, 2009).

The importance of movement in preschool is not just in the movement itself, but also because movement improves attention, behavior, balance and coordination (McMurray, Drysdale, & Jordan, 2009). Designing developmentally appropriate (DAP) activities for motor learning is critical in a comprehensive early childhood program (Alhassan & Whitt-Glover, 2014; Menear & Davis, 2007). DAP has three components: knowing age typical development; what is individually appropriate for specific; and knowing what is culturally important to children and families to learn what shapes the families' values, expectations and home life and community life (Copple & Bredekamp, 2009).

Forming motor development strategies is complex, and includes variables such as choosing the program the teacher will follow, providing accommodations for children in the room, and the time of day for the activities (Alhassan & Whitt-Glover, 2014; Gagen & Getchell, 2006; Menear & Davis, 2007; McMurray, Drysdale, & Jordan, 2009). Research supports using different strategies at different times during the day, such as deep breathing in the morning or large movement in the afternoon (Vagovic, 2008). For example, Vagovic found that strategies done in the morning should focus on deep breathing and core exercises during which time the children learn to understand how to

take in a deep breath and push it out. Having the children taking in more oxygen helps them get ready to learn, while strengthening their core muscles. The afternoon transformers would be more whole body using opposites, working or balance, and spatial orientation (Vagovic, 2008).

In Massachusetts, there are state learning standards that detail DAP activity suggestions in a preschool setting. The standards list a number of activities that a teacher can use as a starting point for initiating a movement program. As a teacher begins to incorporate a movement component into the classroom schedule, the standards the state puts forward help provide a framework. Having an idea of what motor skill levels the children in the classroom should be reaching is the first step before designing the curriculum (Massachusetts Department of Education, 2003).

Research suggests that there is a need for understanding by preschool teachers about how to build a developmentally appropriate movement education curriculum (Gagen & Getchell, 2006; Robinson, Webster, Logan, Lucas, Barber, 2012). Therefore, the purpose of this research was to conduct a case study to understand whether preschool educators plan and implement motor activities in their classrooms. The case study examined aspects of motor development in preschool classrooms in an early childhood center, and whether professional development training in motor learning was offered to early childhood educators.

Review of the Literature

Movement education is one aspect in the early childhood curriculum. Throughout this review there is research that examines why it is important for teachers in the field of early childhood education to have an understanding of motor skills and movement development. These educators may have some knowledge of motor development, but they need implementation strategies (Gagen & Getchell, 2006). The topics discussed in this review are: the importance of movement in preschool; teaching practices for movement education in preschools; and strategies for developing developmentally appropriate motor learning activities in early childhood programs.

The importance of movement in preschool

Movement is a fundamental part of every human's existence; as humans move through their everyday tasks, some parts of their tasks are based on their ability to move. During movement, children exercise problem-solving skills, the ability to plan quick solutions, sequence events, and use the concept of cause and effect. Such activities reinforce concepts that are typically taught in the classroom through other modalities (Menear & Davis, 2007). Being physically active and promoting physical education in young children can help create and establish a lifestyle of healthy living that will be carried with them throughout their lives. The use of movement activities in the classroom, ranging in levels of physical activity from low, moderate, to high, can help children in their social and emotional, as well as their physical development (Temple & Robinson, 2014; Sterdt et al., 2013). Physical activity not only impacts the social development but can impact the cognitive development as well.

Movement and physical activity do not affect one part of a child but the whole child. A study conducted by Palmer, Miller, and Robinson (2013) from Auburn University observed the effects that exercise had on preschoolers' ability to sustain attention. Palmer, Miller & Robinson hypothesized that if the preschoolers received 30 minutes of planned developmentally appropriate movement programs that it would have a positive effect on the preschoolers' attention and response skills. Their research suggested that there is a significant link between exercise and cognitive function. Throughout the study the children had fewer omissions on tests after exercise than they did after sedentary time. The attention of the children increased after 30 minutes of exercise (Palmer, Miller & Robinson, 2013). This is the first time a study of this kind was conducted, and the sample size was limited, including only 16 children. However, the study does point to a connection between motor development and academic development. Unfortunately, while half of the nation's young children are in some form of formal preschool education, over the past decade there has been a decline in time spent on physical activity in these settings (Palmer, Miller & Robinson, 2013).

A child can spend up to six hours, five days a week in school in a mostly sedentary lifestyle. This type of learning is not, as illustrated previously, conducive to learning. The importance of movement in the classroom helps a child who may struggle with the demands of the long day and the stillness. During the day, incorporating movement activities throughout transitions can improve children's coordination and balance, as well as help them refocus their attention on the task at hand (Vagovic, 2008). The sedentary structure of the classroom means that it is important to optimize the time for being physically active. Ideally, at least 60 minutes of structured physical activities

and 60 minutes of unstructured physical activity for young children is suggested by the National Association for Sport and Physical Education (2009).

Motor development is most critical during the early childhood years. During this time children are forming motor memory, the foundation from which more complex programs will emerge and form (Utley & Astill 2007, Bobbio, Gabbard, & Cacola 2009). Therefore, it is important to promote the function of these motor programs while they are forming (Murata & Maeda 2009). In addition to helping motor development formation, trained teachers and classroom specialists should also be looking for early signs of motor difficulties or that a function is being performed in the incorrect way (Bobbio, Gabbard, & Cacola, 2009). If a motor function is being performed incorrectly early detection may help, because a young child's brain has plasticity and the muscle memory is not yet fully formed (Bobbio, Gabbard, & Cacola, 2009; McMurray, Drysdale & Jordan, 2009). It becomes harder to correct once the muscle memory is formed because the complex process of having the conscious thought override the subconscious thought has the child revert back to the incorrect function (McMurray, Drysdale & Jordan, 2009).

Teaching practices in preschools

Movement is divided into four concepts: body, space, effort, and relationship. A preschool teacher may not have the knowledge to develop a program that would support the growth of these developmental areas (Robinson, Webster, Logan, Lucas, Barber, 2012; Murata & Maeda, 2007). The need for additional knowledge and preparation of preschool teachers can have consequences for a child's optimal development.

Robinson et al. (2012) investigated whether undergraduate preschool student teachers could be trained to design and run a Mastery Climate Movement Program (MCMP) for preschool children. The goal of the study was to see if the students could effectively design and run a program when given the correct tools, information and guidance. The MCMP program designated that teachers facilitate motor activities, and that the children decide what they would like to do. The teachers set up a round robin of movement activities with each station having low to high levels of difficulties (Robinson et al., 2012). The children engaged at each station for no allotted time limit, with whomever they wanted. Constructivism theory advocates that the learner should use authentic experiences to construct their knowledge. This approach to learning is active learning. It was active play, as advocated by the theories of Piaget and Vygotsky in which a child was considered not an empty vessel waiting for knowledge but as part of the environment being active in what they learned. The main objectives of an MCPM are for the children to explore, question, experiment, search, discover. In this study, early childhood undergraduate students ran an MCMP and the research showed that with proper preparation the students in the early childhood major were proficient (Robinson et al., 2012).

The teachers' practices influence the habits that the children will develop over time and how their skills will build over time. The early childhood years form the building blocks for future skills acquisition (Alhassan & Whitt-Glover, 2014; Gagen & Getchell, 2006). Alhassan and Whitt-Glover (2014) studied the fidelity of teacher led interventions to promote physical activity in the preschool setting. The study took place in Massachusetts using two forms of intervention strategies. One was the Tutti Frutti

Instant Recess which was adapted for preschoolers. The exercise videos played for 10 minutes with exercises led by the teacher, then the children had 20 minutes of unstructured free play time. The other group had 30 minutes of unstructured free play time. Each teacher was trained on how to teach using this method. The researchers made themselves available for the teachers for any questions (Alhassan & Whitt-Glover, 2014).

Researchers found that teachers did not give the children the full 30 minutes of physical activity time in both the morning and afternoon. The teachers who had the Tutti Frutti Instant Recess material used the videos, not only for the purpose originally intended, but also as a way to fill in time, for example, to keep children busy while they set up lunch or rest-time. The teaching practices did not duplicate the original design of the videos nor did the teachers pay attention to the importance of the intervention. The teachers found the intervention too inconvenient for the schedule of their day (Alhassan & Whitt-Glover, 2014). This study shows that the right tools and guidance, and collaboration between those developing programs and the teachers putting the programs into practice, could help improve the level of physical activity understanding and strategies in preschool programs. Coaching and mentoring also could play a vital role in improving practice in preschool programs. The schedule of the intervention also needs to be better placed within the structure of the classroom (Alhassan & Whitt-Glover, 2014).

Gagen and Getchell (2006) explored the use of introducing the theoretical concepts and practical uses of movement education into the curriculum of future early childhood educators. Most movement education in preschools is unstructured. The unstructured play time that children experience in preschool and childcare settings, although beneficial to many domains of their whole being, does not offer structured time

devoted to motor development like its counterparts in academics (Gagen & Getchell, 2006). Designing lessons built on the existence of constraints that children might face allowed a higher rate of participation. The idea of constraints was proposed by Newell, who theorized that a person's movements were limited by the individual, the environment and the task (Braga, Tracy & Taliferro, 2015).

The types of constraints that affect a child in movement activities include abilities, height, weight, whether activities are outside or indoors, and the goal to be achieved. Constraints are dynamic (Gagen & Getchell, 2006). Teachers need to be aware of the constraints that an activity may have and provide materials for all levels. The teachers also need to know what type of materials they are purchasing (Gagen & Getchell, 2006). By giving teachers an awareness for the constraints in movement education they can better design and implement a movement lesson that is inclusive but also has individual learning objectives that elicit desired movements from children (Gagen & Getchell, 2006).

The physical environment of the school and the teaching philosophy affect the teacher's role in the room and the benefits it can have for the student physical development and activity levels (Pate et al., 2014). A study comparing the Montessori method of teaching versus traditional teaching methods found that Montessori taught children had more periods of physical activity than their counterparts in traditional school settings (Pate et al., 2014).

In a Montessori school children were shown to have more open space and were encouraged to move more often and more freely throughout the day. In traditional schools children had a more sedentary day. The children in traditional schools were not

offered the chance to use large gross motor skills to the extent that would improve readiness (Pate et al., 2014). These findings were congruent with those from Sterdt et al. (2013) that found preschool programs offered limited physical activity development time.

The study by Sterdt et al. (2013) was conducted in Germany where preschool programs were given a survey to complete to determine how well they did in offering the children time in building their skills during physical activity times. The baseline determined that physical activity was limited in preschools. The preschools that lacked sufficient physical activity programs did not have physical education teachers (Sterdt et al., 2013). As established by Robinson et al. (2012), early childhood educators, specifically those in preschool centers in the United States, are expected to design and implement movement programs without proper training. However, studies have shown when given the proper tools and guidance teachers can develop programs that are developmentally appropriate and scaffold motor development (Robinson et al., 2012).

Strategies in designing developmentally appropriate activities in early childhood programs

In every lesson, the teacher needs a strategy or accommodation for a child who is having difficulty with the task or requires a challenge. These are also constraints. Constraints are natural qualities or characteristics that encourage or discourage some movements over others. Individual Constraints are the child's own abilities, as well as their height and weight. The Environmental Constraint refers to the conditions of the learning space, whether outside or indoors, hot or cold, hard or soft ground. Then there is Task Constraint, which is the goal that is sought to be achieved. Constraints are dynamic, just like people. A child is not going to stay the same size forever; they may be too short

earlier in the year, but be the right height later. Task Constraints and Individual Constraints are changeable. Teachers need to be aware of the constraints that an activity may have and provide materials for all levels. The ability to identify the constraint that is affecting the children could help the teacher identify the strategy that best fits the situation (Gagen & Getchell, 2006).

Motor movements in early childhood are best learned through repetition and practice (McMurray, Drysdale, Jordan, 2009). Demonstrating tasking allows children to see what the end goal is and therefore have an idea of what it is they are trying to achieve. A child who has a motor processing disorder needs more one-on-one help until the idea of the task is processed (McMurray, Drysdale, Jordan, 2009). Accommodation and strategies for children in the preschool setting could help insure success for future endeavors.

Transformers are quick movement based activities that are performed during transition times (Vagovic, 2008). Vagovic (2008) describes transformers as a useful and important tool that allows children the ability to move and break up the day. The transformer movement strategy allows for increased focus and helps children who frequently get up and out of their chairs and disrupt their learning. With the use of transformers children who have issues with sitting for extended lengths of time become better learners (Vagovic, 2008). In the preschool setting the children who have trouble focusing during center time would benefit from specific movement time built into the schedule. Strategic use of activities is important with transformers, for example, deep breathing in the morning helps to wake children up, while larger motor movements are more beneficial in the afternoon (Vagovic, 2008).

Movement activities enable opportunities for social interactions (Sterdt et al., 2013). When developing lessons teachers should have an understanding of the children whom they are serving. With this understanding they can pair children up who would benefit from a partner who can demonstrate the movement in a proficient fashion while still serving to encourage a positive environment (Murata & Tan, 2009). Activities that would be beneficial to a preschool movement education program are activities which focus on imitation, bilateral coordination, sequencing and spatial awareness (Murata & Tan, 2009).

The teachers also need to know what type of materials they are purchasing. Buying a big ball may be fun, but it needs to be appropriate for the children developmentally. When designing an activity, the teacher needs to think about the end goal that they want the children to achieve. Not providing the right materials to fit the child in size makes the lessons useless. Teachers need to plan a strategic approach to purchasing and using materials to be effective (Gagen & Getchell, 2006; McMurray, Drysdale & Jordan, 2009).

In 2010 Derscheid et al. reviewed early childhood teachers' and staff members' perceptions of preschool practices in physical activity. The researchers had the teachers and staff complete questionnaires and talk in discussion groups. The teachers believed that circle time on the rug, unstructured play and outdoor time were times when movement was greatest (Derscheid et al., 2010). The strategies used to implement movement indoors were through music or games like duck, duck, goose. What the researchers highlighted was the lack of modeling in outdoor play. Young children mimic the adult behaviors around them. When the adults around them stood around outside the

children tended to participate in less gross motor play (Derscheid et al., 2010). During outdoor play teachers should engage in play with the children. It is a developmentally appropriate strategy for the teacher to be the lead in a game for the children to model desired behaviors. It also gives the teacher a chance to model desired motor skills.

Summary

The evidence presented throughout the review of literature underscores the importance of childcare teachers having an astute understanding of motor development. Understanding preschool educators' knowledge of motor development and the implementation of motor activities is critical for preschool teachers in providing for the motor development of children in preschool programs. Research indicates that preschool teachers have a limited knowledge of motor development but the research that still needs to be explored is how limited this knowledge is (Gagen & Getchell, 2006; Robinson et al., 2012). As stated in the review it has been suggested that student teachers can be taught motor theory and practice. A case study was conducted to examine a preschool educator's knowledge and use of motor activities in the classroom.

Methods

Setting

For this research, finding the location to do the study was challenging. The researcher reached out to multiple locations to conduct a broader based study. However, it proved difficult to gain access to a number of centers for a variety of reasons, such as centers not allowing observations, not wanting the children to be involved, and not understanding the confidentiality of the study.

The preschool selected for the case study was a campus-based program. The center included five lead teachers, each with at least a bachelor's degree. The center could accommodate up to 30 children, and the population that the program served was the campus students' children, professors' children and the community. The program provided snacks for the students, but students had to bring their own lunch. The center was located in a section of a one story brick building on the campus, with outdoor access. The children in the program spent two hours outside a day, weather permitting. The outside area included a large grassy field, a play structure with four swings, a shaded area with a picnic table, and a sound and science area for manipulation. There were two classrooms in the program, for different age levels. The focus of this case study was the younger preschool room. The room was fairly large, with a wide open floor plan (Appendix A). There were two doors in the room; one door opened to other classroom the other opened to the hallway. There were two teachers in the room, which was also visited by student teachers and other personnel.

Participants

The participants were from the Northeast region of the United States, specifically Southeastern Massachusetts. This was a case study of one of the preschool teachers from

the early childhood center, with an additional interview from the center's director. The teacher participant was the lead teacher in the early childhood center. She was a female who had been working in the field of preschool education for 18 years, and had a Bachelor's degree in Early Childhood education. With plans to further her education by getting a Master's degree in early childhood education. The other participant was the program director of the early childhood center who had been working in the field for 25 years. The director was also a female who had a Masters of Education in Early Childhood. She was Director 2 certified through the Massachusetts Department of Early Education and Care. Director 2 certification meant that she had experience as a lead teacher and a director with additional college credits, as well as three credits of Continuing Education Units. Prior to working at this campus-based preschool the director had worked at two other campus-based preschools. The participants have a higher level of education than most EEC teachers who have the basic certification education requirements of 3 college credits and accumulated work experience. Pseudonyms were used to protect the identity of the participants.

Measurements

This study was inquiry-based qualitative research. A case study approach was used for this study that included observations and interviews of the participants. The participants answered survey like questions regarding their knowledge of motor activities and how these were implemented in their classroom.

A two-hour observation of the preschool teacher in the classroom was followed by interviews conducted with preschool teacher and program director. The observation focused on physical development in the classroom. Using the Early Childhood

Environment Rating Scale (Harms, Clifford and Cryer, 2015), four areas were targeted in the observation: supervision of gross motor activities, space for gross motor play, gross motor equipment, and free play. Using this tool established a scale and specific format for the observation (Appendix B). The Early Childhood Environment Rating Scale (ECERS) was used to help format the observation because of the credibility that it has. The ECERS is used within several other studies, and in centers throughout the United States. Collection of data included artifacts such as the schedule for the preschool (Appendix C).

The observation helped shape the interview questions, as the interviews were conducted immediately following the observation. Open-ended interview questions were developed to better understand the perceptions of the lead teacher and director regarding their understanding of motor movement in the classroom (Appendix D). The 20 minute long formal interview with the lead teacher was audio recorded and later transcribed. The lead teacher interview was conducted in a quiet back room of the director's office, out of the way of the noise of the rest people in the center. The teacher was sitting at the end of the table with an open window to her left and open space to her right. The researcher was sitting in front of her. The teacher leaned into the conversation at times, and would lean back into her chair at others. The room was bright and warm and inviting. The formal interview with the director was audio recorded, then later transcribed, and was 15 minutes in length. The director was interviewed in the room adjacent to the front office. This room had an amber light; the director was in one chair with a desk on one side and open space on the other. The research sat directly opposite her in the same position. There was nothing in between them during the interview. During the interview the director held herself straight with her legs crossed and her hands crossed in her lap.

As the final part of the visit and observation the participants were given a short survey with a consent page and matching section (Appendix E). For the matching activity, the respondents matched the correct learning experience to the learning standards from the Massachusetts Preschool Standards. There were 11 matching learning standards and the activity that corresponded with it (e.g. build finger dexterity—use the thumb and forefinger to spin a top).

Procedure

After the Institutional Review Board approval was granted from the sponsoring university, an email was sent out to centers inviting them to participate in the case study through interviews, observations and artifact collection. Once the center elected to participate, a date and time was established that was convenient for the center to conduct the observation and interview. The observation took place first, then the interviews followed immediately afterwards. The observation was recorded through field notes and utilized the Early Childhood Environment Rating Scale (Harms, Clifford and Cryer, 2015) (Appendix B). The teacher and the program director were each interviewed separately. The interviews were recorded through an audio recording, then transcribed. Once the interviews were transcribed the audio recording was deleted. The transcribed interviews were sent to the participants for review to insure everything they said was accurate. After the observation and interview, the lead teacher was given the short survey to complete.

The data was analyzed once it was transcribed and coded. Once all the data was collected, big ideas in the area of motor development emerged from the data, and these formed the basis to establish coding categories. The researcher created a log of these

coding categories that detailed the ideas which emerged through the observation, interviews and collected field notes. The structure of the interpretation of the data modeled the literature review in the topics discussed: how important movement is, teaching practices in preschool, and strategies in designing developmentally appropriate activities in early childhood programs.

Data analysis:

The data was collected through audio recorded interviews, one short survey (Appendix E) taken by the lead teacher, and field notes that also employed the Early Childhood Rating Scale developed by Harms, Clifford and Cryer (2015) (Appendix B). Using these different modes of data collection ensured triangulation. The researcher was not just relying on the field notes but also using interviews from both the director and the lead teacher as well as one short survey. Using sections of the Early Childhood Rating Scale helped the researcher utilize the limited time spent in the space. The first step taken with the data was to transcribe the audio interviews of both the director and the lead teacher. Once the interviews were transcribed the audio was reviewed while reading the transcription to insure that everything on the audio was captured accurately in the transcription. The audio files were then deleted. The field notes were typed to be in a manageable fashion to work with for when it was time to look for categories. The next step was to review the teacher's response to the survey (Appendix E). After all the data was organized and transcribed, the researcher took into account any pre-depositions (Appendix F).

Once all the data was organized, the researcher read through all of the data to get an overview. From this overview a code of eight categories was created. The eight

categories were: knowledge of the importance of motor education in the preschool classroom, the need for professional development in motor learning, prior experience, mention of motor activities, design of the environment to support motor learning, activity engagement, interaction between the teacher and the children, and collaboration with others outside the preschool classroom. The description for each of these eight themes is in the code log (Appendix G). With these categories, the researcher examined every piece of data and marked off each indicating the section of category to which it related. To organize the data within the categories the researcher created a chart. Any quote, field note, or material was written into the chart. The chart was color coded to allow the source of the information to be identified. This chart insured dependability because it insured that the researcher reviewed the data. This chart created an audit trail that the researcher could follow and present to their peer debriefer. Along with creating an audit trail the charting of the data also allow the research an opportunity to review the data again and recode data if need. Visualizing the data within the category allows the researcher to see if data does fit within the category it was coded into or if it also fits within another. Once the data were placed within the charted categories, research memos and catalog memos were created that went with certain quotes (Appendix H).

From these categories the data within each was reviewed, and then paired in groups. Similar contexts were found within each one. For example, knowledge of the importance of motor education in the preschool classroom was paired with the need for professional development in motor learning because they complemented each other. After grouping the categories with similar contexts, it was determined that they distilled into the three major themes for this study: the importance of movement in preschool,

teaching practices for motor education in preschools, and strategies for designing developmentally appropriate motor activities for early childhood programs.

I had the benefit of a peer debriefer, and we met once a week for several weeks to review the progress of the research. We discussed the results that I found and my thoughts on what I was seeing. The peer debriefer I had was a physical education teacher who has taught preschool age children and was able to give some valuable insight into some of the research I had found. My peer debriefer was also a student of qualitative research. My peer debriefer also made sure that I thought about the results and how I described them for the audience, insuring that the narrative gave an accurate depiction, which adds credibility to the study.

I was also able to review my research with my committee chair who has significant experience with qualitative research. Sending the results and discussions to this committee member allowed for another individual to view the content without the predispositions or potential bias that would influence my view of the data. Having an outside reader with qualitative research experience and a peer debriefer helped me talk through my findings. Their thoughtful review of the various stages of my research and analysis also helped me be more clear in writing up and categorizing the data. Seeking feedback from readers not directly involved in the research helped insure that I was not making up data or hiding data that would disprove the research, thus adding to the credibility of the study.

Results

The purpose of this study was to investigate the knowledge that a preschool teacher has about movement education, and how motor development was addressed in the preschool classroom using a case study. The program that was observed was a day care center on a medium sized college campus. **The primary function of the preschool is to serve the community of the campus but it also extends its services to the community at large.** In addition to the observation, the lead teacher and the director of the program were each interviewed. The lead teacher was also given a survey to match learning standards with appropriate motor activities.

In examining the interview transcripts, observational notes, and survey results, several major categories were created, and these were used to code the data. Broad categories which evolved were: knowledge of the importance of motor education in the preschool classroom; the need for professional development in motor learning; prior experience; mention of motor activities; design of the environment to support motor learning; activity engagement; interaction between the teacher and the children; and collaboration with others outside the preschool classroom. These categories reinforced the three major focus themes for this study: 1) the importance of movement in preschool; 2) teaching practices for motor education in preschools; and 3) strategies for designing developmentally appropriate motor activities for early childhood programs, all of which will be described below.

The importance of movement in preschool

Both the teacher and director displayed knowledge of motor development in children and the importance of it in the early childhood setting. Their commitment to

implementing this knowledge was evident through their willingness to respond to it in a variety of ways. In the following quote from my interview with the director, she described the ways in which her staff respond and she noted her perception of the effect this had on the children:

...we learned a lot about the importance of the physical activity for children. Even as far as releasing energy so that they can focus ... there are even times that we have rescheduled... looked at our schedule and revamped it because we felt that ... the group times were not as focused. So we had more outside time beforehand and found that when they came in that they were much calmer and able to focus on the topic on at hand ...

Research has shown that giving children the ability to exercise can improve children's academic performance in the classroom (Palmer, Miller & Robinson, 2013). By being aware of and allowing for flexibility within the schedule for when the children need to expend some of their energy this staff displayed that they understood the needs of active preschoolers.

The children at this center had designated time outside of the classroom for gross motor activity. The fine motor development of the children was incorporated within the lessons that were taught inside the classroom. Large motor activities included things like running, playing with balls, and hopping. The teacher set up indoor obstacle courses for the children when the ability to go outside was compromised due to weather. The teacher described this modification as follows:

... on a rainy day, which you did not get to see, or especially if it is snowy and frigid outside, this whole hallway we set up with an obstacle course ... the kids love to do that and there are tunnels and hopping and there are

scooters and bowling balls and we set up an assortment of stuff just so that they can get moving...

The program set up the obstacle course for the children as a way to fulfill the need to let the children expend energy that they do not usually get to expend in the classroom. Having the hallway set up as a course with the scooters and balls is engaging, but perhaps should not be limited to use just on inclement days, but rather incorporated into the preschool curriculum on a more regular basis.

The teacher also used movement in the classroom in a less dramatic manner than the use of obstacle courses and materials for large gross motor skills. The teacher used dance in a variety of different ways. Through these varied approaches she was able to reach different children. The teacher used song and dance to teach the children about directions, helping the children become aware of their body's direction and movement in space. In the field note section below it showcased how the teacher accomplished this. The teacher stated that she will "...mirror the movement for the students so they know the right movement." For example, if in the video they were doing something with their right foot the children would do something with their left foot. The teacher mirrored the action once so the children would use their right foot. The teacher displayed the idea of mirrors and demonstrated the movements for the children in way that had them use the correct body parts to the correct lyric in the song.

In addition to observing the classroom, as part of the study the teacher was asked to complete a short survey. This was a task for which the teacher needed to match the correct learning standard to the correct activity as stated in the Early Childhood Education Learning Standards Massachusetts Guidelines. The matching portion of the

survey had 11 questions, and included both fine and gross motor activities (Appendix E). The teacher was only able to match six out of 11 correctly. While completing the matching, the teacher complained that the matching was unfair, feeling that there could be multiple correct answers and that there must be a trick to the matching. She went on to explain that she felt she could use many of these activities to carry out multiple aspects of the learning standards. For example, she mentioned that “art helps the children cross the midline.”

The teacher was not at all wrong in her assessment about the survey in that many of the activities seem to be very similar and are closely related. This confusion about the content addressed by the assessment means that teacher’s knowledge of motor development was not as deep or thorough as one might assume. What the teacher’s comments underscored was the need for more grounding in the theoretical basis behind the standards. In the learning standards the activities are guides for what could be done to fulfill a specific learning objective. The teacher did make a valid point that through experience the activities and learning standards reveal themselves to the teachers. This will be examined later in the results. The teacher expressed that she was willing to learn more about movement and motor development for her classroom.

The importance of movement and motor development in the classroom is that they not only help the children develop a healthy lifestyle, but also support cognitive and social development. Movement in the room can help throughout the curriculum with developing problem-solving skills, the ability to form quick solutions and to follow directions. The teacher and director were asked about the ability to obtain professional development in the area of movement and motor development. Having access to

professional development in motor development can add to their teaching practices and also add to any strategies that they may not have known about in the field.

Teachers have to make a conscious choice to select motor development as a professional development activity. The most frequent form of professional development in which this teacher participated was at conferences. In the following quote the teacher explained her experience with professional development conferences: "...people speak on different topics ... at the conference you can choose from those topics, but generally there is not one conference that takes place on motor development. It is usually offered in a choice with a lot of other choices." The teacher addressed that she has access to the knowledge of more resources for motor development, but it can be overshadowed by other choices when put into a conference setting. When the teacher only looks for professional development opportunities or only has conferences as professional development, there are areas of development that can be overlooked because of the importance or general focus of a participant.

Teachers can learn from professional development different methods that could have an influence on their teaching practices. These influences could help change and enhance their practices or reinforce a practice that is already being done in the classroom. During the interview the teacher spoke about a professional development session she attended that helped her learn more about the red flags to look for in motor development. "...not specific to generally motor development but when there are issues. Like what kind of red flags to look for; it was very helpful ... so that I could understand what referral I could make for a parent." Having the ability to recognize the red flags and report them back to the parents can be beneficial to the children.

Teaching practices for motor education in preschools

Observation of the teacher and her practice in the classroom was also conducted to examine how the area was utilized for the management of space. The way a teacher sets up a classroom is important for the development of their students. The physical environment of the room can affect other aspects of learning just as much as the lesson the being taught. A room that has a lot of material on the walls can overstimulate some individuals, but having too little can do the opposite. The placement of furniture in the room is important as well. Furniture can help section off the room and thus create a physical environment that is conducive to movement but is also controlled in some ways. The classroom observed was medium sized as described in the field notes here. "It has a large open space for the children to run in circles. The activities for the room are set up around the perimeter of the room. So the art center, science, dramatic play area, and book area line the room." The room was set up with all the different centers set up against the walls. The middle of the room was open wide for the children to move around in freely. The space was there for when there was a need to meet periodically throughout the day in a whole group (Appendix A).

The knowledge of motor development and movement in early childhood education can be observed through teaching practices. These can also be expressed through the individual's experiences. The teacher used music and dance as a primary way for gross motor activity in the classroom on a regular basis. The teacher expressed experience using Raffi songs. She found that the children responded to the songs and she could help them learn movement through songs such as "What is My Shoe" by Raffi. The following is a field note informally quoted from the teacher: "The teacher finds music to

be a powerful tool and useful in the classroom to engage the children.” Dance engages the large muscles versus the small fine motor muscles that become engaged through other activities. The teacher found that if she needed to she could bring out a song to have the children move along with when things get chaotic. She has discovered that the children become calmer after they have been able to move.

The survey was limited in taking into account the experience that the teacher would have and the interpretation of the standards. The teacher and director have over 18 and 25 years teaching experience respectively. The teacher has been working at a campus unit based center for most of her career. The director previously owned her own childcare program and worked in multiple campus centers, and is new as acting director for this center. The teachers at this center have a potential opportunity to tap into some of the research and resources available because of the center’s location on a college campus.

Her experience has provided the director with insight into when there needed to be more activity put into the day or when the children needed more outside time. In these instances, the schedule would be changed to accommodate the children’s need to release energy. Experience also provided the director with the ability to see when a child is developing normally and when they are not. When a child showed signs of difficulty she knew what to do, but because her experience was limited she recommends that parents seek a referral. Experience helps shape the understanding of theory. In this quote, the director talked about how her experience was worth more than her academic preparation. “...while I have taken child development, I think it is more from the time in the classroom and the time around other professionals and other children that I have gained the most...” According to the director, the knowledge of what works and what does not work in the classroom comes from experience in the classroom.

In the classroom the teacher used art to engage the children in activities. The teacher talked about how she used art as a means for the children to work on some of the motor learning standards. Art was a good example of how the child can work on their fine motor skills. In the classroom there was an art activity. The setup of the activity changed the effect of the way the children worked at the activity. For example, for that art activity, the children used soda bottles of different sizes to apply paint using the soda bottles bottoms as stamps. The children had to grasp different sized soda bottles and had to reach over on a flat surface to apply the paint. The field notes described this activity:

“There is an art activity that is set up in the room that appears to have been done earlier in the day because it smells of fresh paint in the room. The supplies are still out but none of the children go back to it. The art activity is painting with different size bottles. The children have to hold either large soda bottles or small thinner bottles. The objective was to use the bottles to apply paint onto the flat paper surface. There are stamped imprints and strokes on the paper.”

One observed activity had the children following along to a video on a SmartBoard. However, it became apparent that video technology and dance and were not commonly offered, but rather were done as a special thing because of this observation. A girl came bouncing up to the researcher to say: “Hi my name is [...]. What is your name? You came on such a special, special day because we get to do this!” The video activity very much seemed put on and unplanned for the time the activity was conducted. The teacher, however, stated that “Definitely movement is a big part of what we do...and finger plays, different kinds of movements whether it is dancing or yeah it is a little bit of everything.”

Strategies to design developmentally appropriate activities in early childhood programs

The engagement that children have with an activity is important for participation. The teacher would also need to be engaged in the activity with the children. There are different strategies that the teacher could use to help her in engaging her classroom in doing an activity with her. In these circumstances the teacher allowed the children to help pick out some of the songs. Teacher was observed doing a lesson for which the children used the SmartBoard to watch the videos from the *Just Dance Kids*. The teacher allowed the children to give suggestions as to which songs the children would dance to and follow the movements. The children thus had some control over their movement environment. The teacher did not force the children to participate in this activity but merely made it available.

One downside to this activity was the inconsistency of the activity. The teacher was not consistent with when she would stop the activity and when each video would start. She did not have a fluidity to her lesson, which created a lot of standing wait time. This resulted in some negative behavior to develop with some of the children. Children needed to have a stable environment of engagement to help maintain their focus. As described in the field notes, the observer found that “At some points during the observation, the teacher did model the movement for the children, notably when the Raffi songs played as audio only.” However, when the video was displayed the teacher did not consistently model the actions and dance moves for the children.

The director spoke about the different activities and ways in which the children were able to be active through the day outside the classroom:

...we are required by EEC to have an hour in the morning and hour in the afternoon. Which we easily do. Sometimes we even take walks on campus. and visit you know...we might visit the firehouse, we even visited the post office we have gone over to the track. We bring balls out there as well you know... sometimes it is a more structured ... play activity with a small group out there... we might do waffle ball activity or something like that.

The teachers take walks with the children around the campus and visit different places in the surrounding community. The walks give the children the ability to move and work their large muscles. Taking the children to the field with equipment gives them a chance to engage in activities that would not happen in the usual day.

This is a campus-based preschool in located in the education building of the campus. As part of the interview the director was asked about what type of collaboration she has done with other departments on campus in terms of movement, if any. The following is her response.

We have in the past and last year we connected more with the dance program ... we would meet with them once a week and they would have activities set up for the kids but it was more to teach them to become dance teachers. The kids benefitted from it. They were all age appropriate activities, well thought out and well planned out that was a really great experience...

The director spoke about how the ability to have the dance program was beneficial to the children. The dance program was able to provide a program for them that was developmentally appropriate and modeled a way to create dance and movement opportunities for the children. The director was also asked about what other collaboration might be beneficial because she is on a campus and therefore could potentially access more resources than typical centers. The director acknowledged that:

...that most of ...our main focus is our early ed majors but we really should be a model program where we can support any student ... looking to go into education especially with young children and physical education majors and a lot of them will work with kindergarten age and preschool age in their preschool programs in public schools, so anything that could benefit them and benefit our children as well, absolutely.

The program was campus-based center, but while there a variety of potential resources on the campus the program tended to focus only on the education department.

Collaboration with the dance department proved to be a good idea; it worked out for the children and they were engaged. The teachers may have learned a lot from these experiences as well. Unfortunately, the collaboration with the dance department does not seem to have continued into this year. On campus there are physical education majors, dance majors and education majors. New information is always being cultivated on a college campus that could be used or shared with the center.

Overall, the results of the observation and interviews show that teachers in the preschool setting have some knowledge of motor development and movement education in their classroom but may need a more grounded theory in the basic foundations of early childhood motor development and movement activities.

Discussion

The purpose of this study was to examine the implementation of motor activities by preschool educators. This research was conducted as a case study with a campus-based preschool, and one lead teacher from the center was observed and interviewed for the study. A review of the literature suggested that in early childhood settings there is a lack of understanding of motor development and movement education. There are four concepts that movement is divided into: body, space, effort, and relationship. A preschool teacher may not have the knowledge to develop a program that would support the growth of these developmental areas (Robinson, Webster, Logan, Lucas, Barber, 2012; Murata & Maeda, 2007). This lack of knowledge and preparation of preschool teachers can have consequences for a child's optimal development.

In this case study, the preschool teacher did evidence knowledge that children need to move and be active. The ways in which the teacher achieved that was to allow the children a prescribed amount of outdoor play time, or to set up indoor obstacle courses when weather precluded outdoor activity. However, there did not appear to be a structured program for engaging children in motor activities, nor did there appear to be scaffolding of motor developmental steps.

One additional motor activity that the teacher had incorporated into the classroom was dancing. On the day the observation occurred the children were allowed to watch a music video and follow along with the people and characters dancing. However, the activity did not encourage the participation of all the children in the room. One issue was that the teacher did not help model the dance moves. Children tend to mimic the behaviors of adults around them. A study conducted by Dercheid et al. (2010) determined

that teacher modeling of the desired behavior can be effective in engaging preschoolers. The other issue with the dance activity was that many of the movements were not developmentally appropriate for the children, and even those who were engaged in the activity had difficulty following the movements. This is another area that shows how a lack of understanding of strategies for developmentally appropriate motor learning activities can have negative consequences in the preschool classroom.

Researchers Palmer, Miller and Robinson (2013) found that children who experience 30 minutes of exercise had an improvement in cognitive tasks. In this case study both the lead teacher and the center director discussed the importance of building in time during the day for the children to expend their energy so they could focus better afterward, although they placed more emphasis on attention of children rather than on improvement in cognition. Again, this anecdotal evidence shows that while there may be a general understanding of the need for motor activity for preschoolers, more in depth knowledge could lead to an improvement of teaching practices for motor education.

The teacher in the case study did understand that children need to develop their gross and fine motor skills. What the teacher needed more assistance with was developing a systematic and developmentally appropriate approach to scaffolding motor learning activities. In 2010, Dercheid et al. noted that in the preschools they studied, movement activities were most apparent during times when music was played. The teacher in this case study also used music and dance as a means of incorporating movement in her classroom. However, she tended to use the same songs and dances every day, thereby reinforcing the same muscle movements. Additionally, as noted previously, some of the movements were not developmentally appropriate for many of

the children. Both the teacher and director mentioned a previous collaboration with the dance department at the college. Perhaps this collaboration could be reinstated, with the goal of developing an appropriately scaffolded movement series for the children. The teacher and center director clearly had an understanding of general principles of motor education, but needed some additional professional development in how to incorporate a robust motor education program into the center's curriculum.

This case study was undertaken to determine what understanding preschool teachers have about motor education, and what resources they may need to address motor education in the classroom. It appears from this limited study that while in general preschool teachers have broad understanding of motor education, the specifics for how to implement developmentally appropriate practice in this area are lacking. Preschool teachers could benefit from additional professional development in both the importance of motor education for the well-being of the whole child, and in designing strategies for incorporating developmentally appropriate motor education practice in their classrooms. One approach could be to incorporate coaching and mentoring to help early childhood teachers develop new skills to address motor development in their practice.

Limitations

A couple of limitations in this study need to be noted. First, because this was a case study the sample size was limited to one teacher of one classroom and one director of the school; therefore, it may not reflect the wider landscape of preschool motor education. The teacher and director are more highly educated and experienced than the average early educator in Massachusetts. Secondly, the amount of time for observation

was restricted to one day in the classroom, as that was all the center would allow, and that could also negatively impact the data, as it does not allow for prolonged engagement.

References

- Alhassan, S., & Whitt-Glover, M. C. (2014). Intervention fidelity in a teacher-led program to promote physical activity in preschool-age children. *Preventive Medicine, 69*S34-S36.
- American Alliance for Health, Physical Education, Recreation, and Dance (2009). *Active Start: A Statement of Physical Activity Standards for Children from Birth to Age 5*, 2nd Edition.
- Bobbio, T., Gabbard, C., & Cacola, P. (2009). Interlimb coordination: an important facet of gross-motor ability. *Early Childhood Research & Practice, 11*(2).
- Braga, L., Tracy, J. F., & Taliaferro, A. R. (2015). Physical activity programs in higher education: modifying net/wall games to include individuals with disabilities. *Journal of Physical Education, Recreation & Dance, 86*(1), 16-22.
- Copple, C., & Bredekamp, S. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (3rd ed.). Washington, D.C.: National Association for the Education of Young Children.
- Department of Early Childhood and Care (2011, January 6). Professional Qualification Certification Application. Retrieved from <http://www.mass.gov/edu/docs/eec/prof-development/eec-certificationapp.pdf>
- Derscheid, L. E., Umoren, J., Kim, S., Henry, B. W., & Zittel, L. L. (2010). Early childhood teachers' and staff members' perceptions of nutrition and physical

activity practices for preschoolers. *Journal of Research in Childhood Education*, 24(3), 248-265.

Gagen, L. M., & Getchell, N. (2006). Using "constraints" to design developmentally appropriate movement activities for early childhood education. *Early Childhood Education Journal*, 34(3), 227-232.

Hnatiuk, J. A., Salmon, J., Hinkley, T., Okely, A. D., & Trost, S. (2014). A review of preschool children's physical activity and sedentary time using objective measures. *American Journal of Preventive Medicine*, 47(4), 487-497.

Kirk, M. A., & Rhodes, R. E. (2011). Motor skill interventions to improve fundamental movement skills of preschoolers with developmental delay. *Adapted Physical Activity Quarterly*, 28(3), 210-232.

Let's Move Child Care. (2015). Let's Move! Checklist. Retrieved from <https://healthykidshealthyfuture.org>.

Leung, G. P., Chan, C. C., Chung, R. C., & Pang, M. Y. (2011). Determinants of activity and participation in preschoolers with developmental delay. *Research in Developmental Disabilities*, 32(1), 289-296.

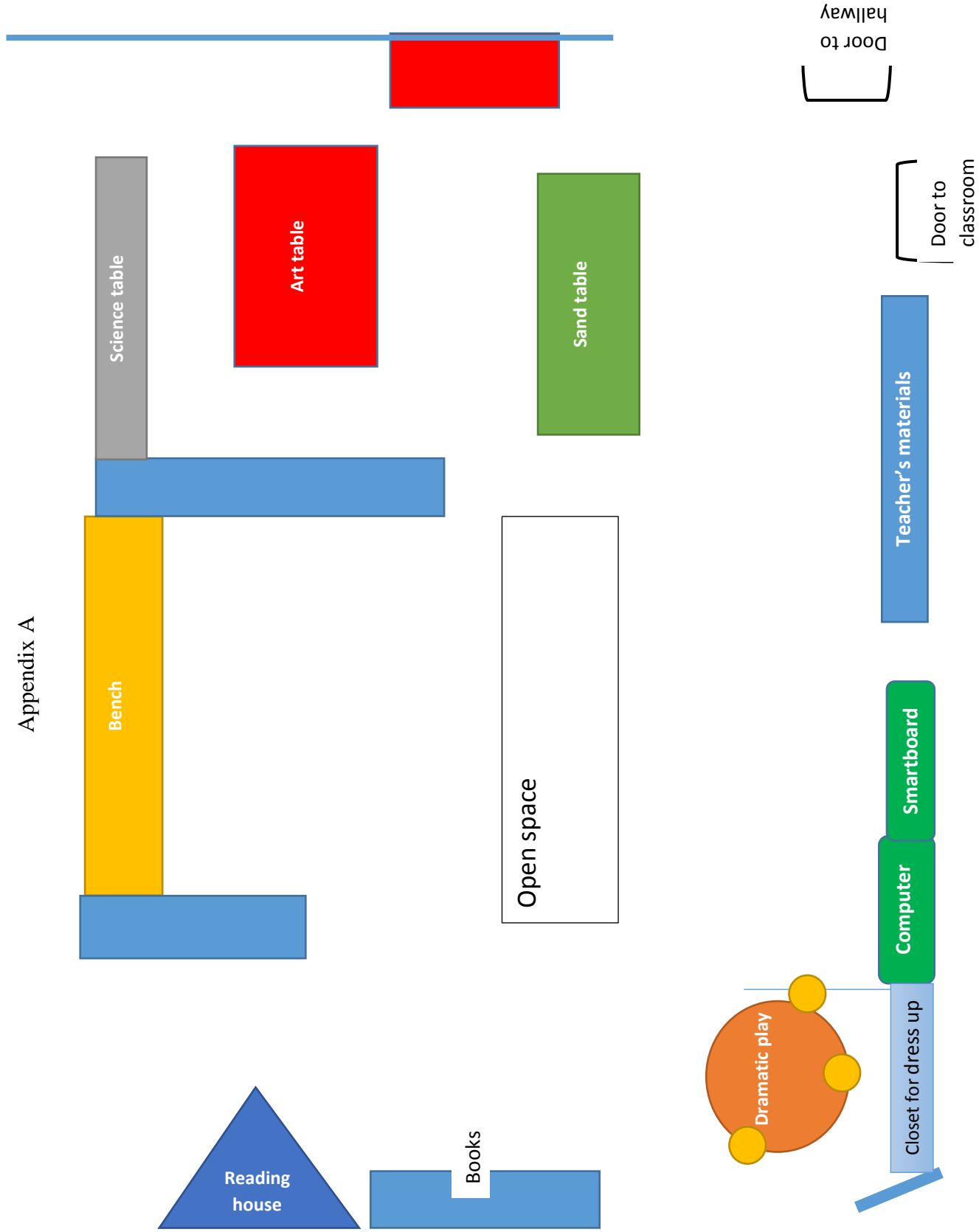
Lum, J., Kidd, E., Davis, S., & Conti-Ramsden, G. (2010). Longitudinal study of declarative and procedural memory in primary school-aged children. *Australian Journal Of Psychology*, 62(3), 139-148.

McMurray, S., Drysdale, J., & Jordan, G. (2009). Motor processing difficulties: guidance for teachers in mainstream classrooms. *Support for Learning*, 24(3), 119-125.

- Meneer, K. S., & Davis, L. (2007). Adapting physical activities to promote overall health and development: suggestions for interventionists and families. *Young Exceptional Children, 10*(2), 11-16.
- Murata, N. M., & Maeda, J. K. (2007). Using occupational therapy strategies by adapted physical educators and classroom teachers for preschoolers with developmental delays. *Palaestra, 23*(2), 20-59.
- Murata, N. M., & Tan, C. A. (2009). Collaborative teaching of motor skills for preschoolers with developmental delays. *Early Childhood Education Journal, 36*(6), 483-489.
- Office of School Readiness. (2003). *Standards for preschool learning experiences*. Malden, MA: Massachusetts Department of Education.
- Palmer, K. K., Miller, M. W., & Robinson, L. E. (2013). Acute exercise enhances preschoolers' ability to sustain attention. *Journal of Sport & Exercise Psychology, 35*(4), 433-437.
- Pate, R. R., O'Neill, J. R., Byun, W., McIver, K. L., Dowda, M., & Brown, W. H. (2014). Physical activity in preschool children: comparison between Montessori and traditional preschools. *Journal of School Health, 84*(11), 716-721.
- Robinson, L. E., Webster, E. K., Logan, S. W., Lucas, W. A., & Barber, L. T. (2012). Teaching practices that promote motor skills in early childhood settings. *Early Childhood Education Journal, 40*(2), 79-86.

- Sterdt, E., Pape, N., Kramer, S., Urban, M., Werning, R., & Walter, U. (2013). Do preschools differ in promoting children's physical activity? An instrument for the assessment of preschool physical activity programmes. *BMC Public Health*, *13*(1), 1-10.
- Temple, M., & Robinson, J. C. (2014). A systematic review of interventions to promote physical activity in the preschool setting. *Journal for Specialists in Pediatric Nursing*, *19*(4), 274-284
- Utey, A., & Astill, S. L. (2007). Developmental sequences of two-handed catching: How do children with and without developmental coordination disorder differ? *Physiotherapy Theory & Practice*, *23*(2), 65-82.
- Vagovic, J. (2008). Transformers: movement experiences for early childhood classrooms. *Young Children*, *63*(3), 26-32.
- Vaivre-Douret, L. B. (2011). Subtypes of developmental coordination disorder: research on their nature and etiology. *Developmental Neuropsychology*, *36*(5), 614-643.

Appendix A



Appendix B

Inadequate 1	2	3 Minimal	4	5 Good	6	7 Excellent
<p>6. Space for gross motor play*</p>						
<p>1.1 No outdoor or indoor space is used for gross motor play.</p>						
<p>1.2 Observed gross motor space is extremely dangerous (Ex: parking lot for cars also used for play; completely unfenced area; no fall zones for high equipment).*</p>		<p>3.1 At least 1 adequate gross motor space, either outdoors or indoors, is used for at least 15 minutes.*</p> <p>3.2 Gross motor area is somewhat safe (Ex: area for running has no major hazards such as much broken glass, deep holes; some attempt to provide fall zones; area fenced and gates kept closed).*</p>	<p>5.1 Observed gross motor space(s) spacious enough to allow vigorous play, including running and use of wheel toys.*</p> <p>5.2 Gross motor space(s) used for at least 30 minutes.*</p> <p>5.3 Gross motor area(s) generally safe, with no more than 4 minor hazards and no major hazards (Ex: low climber has 8 inches instead of 9 inches of loose protective cushioning; fence has protrusions in areas where causing a problem is unlikely; bollards not provided but area is far from quiet street).*</p>	<p>7.1 Observed gross motor space(s) has at least 2 types of play surfaces, 1 hard and 1 soft, so that different types of activities are possible.*</p> <p>7.2 Space(s) has at least 2 convenient features (Ex: outdoor protection from the elements, such as shade, good drainage; water fountain; close to toilets; accessible storage for portable equipment; direct access from classroom).</p> <p>7.3 Space(s) arranged and used so that different activities do not interfere with one another (Ex: play with wheel toys separated from climbing equipment and ball play).</p>		
<p>1.3 Space for gross motor activity is used for less than 10 minutes during the observation.*</p>				<p>5.4 Gross motor space(s) easily accessible to the children (Ex: does not require a long walk, going through other classrooms, or use of stairs to access).*</p>		

7.4 Gross motor equipment*

- 1.1 Very little or no gross motor equipment used both indoors and outdoors (Ex: children rarely get a turn, or have to wait long periods of time before getting a turn; equipment is very crowded, with no alternatives).*
- 1.2 Most of the equipment is not appropriate for the age and ability of the children (Ex: slides and climbers that are too high for preschooler; toddler-sized riding toys and climbers that do not challenge preschoolers; balls deflated).
- 1.3 Equipment is used for less than 10 minutes during the observation.*
- 3.1 Some gross motor equipment is used by the children for at least 15 minutes of the observation (Ex: each child has a reasonable chance to use the available equipment, without long waits).*
- 3.2 At least half of the accessible equipment (both portable and stationary) is appropriate for the age and ability of the children, and no equipment that could be considered "extremely dangerous" is ever used.*
- 3.3 Equipment stimulates at least 7 different skills.*
- 5.1 There is enough equipment (stationary and portable) to interest all of the children and keep them active and involved.
- 5.2 Almost all of the equipment credited in 5.1 is appropriate for the age and ability of the children.*
- 5.3 Equipment is accessible to the children for at least 30 minutes during the observation.*
- 5.4 Adaptations are made or special equipment provided for children with disabilities in the group who require them.
NA permitted
- 7.1 Use of ample and varied equipment is observed, indoors or outdoors (Ex: no waiting to use popular equipment; climbers not crowded; enough balls; different skills encouraged by equipment).
- 7.2 All observed equipment, including use of safety helmets, is appropriate for the children's age and ability.*
- 7.3 Equipment is provided to encourage more advanced age-appropriate skills (Ex: plastic baseballs and bats; child-sized golf clubs, balls and "holes"; long-jump challenge; bicycle with training wheels).

Inadequate	2	Minimal	4	Good	6	Excellent
1		3		5		7

INTERACTION

28. Supervision of gross motor*

- 1.1 Little attention paid to children's safety during gross motor time (Ex: children left unattended, even for a short period of time; not enough adults to watch children in space; staff do not pay attention to children even though they are present).
- 1.2 Most staff-child interaction is negative or unresponsive (Ex: staff seem angry; punitive and over-controlling atmosphere).
- 1.3 Staff show little or no interest in encouraging children's gross motor development (Ex: don't provide outdoor/indoor strenuous gross motor play even if it is scheduled; give most attention to children doing sedentary activities in gross motor space).*
- 3.1 Staff pay some attention to children's gross motor activity to ensure children's safety (Ex: do not leave children unattended; attempt to watch all areas of gross motor space; respond to child having trouble).
- 3.2 Most staff-child interaction is neutral or positive during gross motor time.
- 3.3 Staff show some interest in children's gross motor activity (Ex: make sure children get scheduled gross motor times; encourage children to run or climb; respond when child calls for attention in gross motor activities).
- 5.1 Careful supervision occurs in order to ensure children's safety (Ex: remain near the most hazardous equipment when it is being used; locate themselves in a space with a clear view of all areas; stop potentially dangerous activities; actively supervise with attention to all areas and all children).
- 5.2 Almost all staff-child interaction is positive (Ex: encourage children but do not force participation in exercise; help children work out social issues with a problem-solving approach that satisfies children; stop dangerous activity by explaining the danger and helping children find a safe alternative).*
- 5.3 Staff show much interest in children who participate in gross motor activity (Ex: do not pay most attention to children doing sedentary activities; show enthusiasm when children run, slide, jump; help children learn to use equipment).*
- 7.1 Staff initiate vigorous gross motor activity for part of the gross motor time (Ex: lead interested children in exercises; organize races for children who want to participate; put on music for dancing).*
- 7.2 Staff help children develop new skills, including showing how to use equipment that requires more advanced skill (Ex: discuss strategies for pumping on swings; assist children in accomplishing physical goals, such as jumping further, running faster, or kicking ball).

Appendix C

Schedule:

Arrival activities

Snack

Group time

Outside

Lunch

Story

Nap

Snack

Group

Outside

Small group

Appendix D

Interview Questions

1. How long have you been working in the field?
 - a. What did you do before you work here on campus?
2. Did your teacher preparation include motor development?
3. Has professional development training been offered to you in motor development?
 - a. Have you had a focused professional development in which motor skills were the only things that you were learning about?
4. Would topics of motor development be of interest to you for professional development workshops?
 - a. Does the topic of motor development interest you more or less than academic topics?
5. How important is the aspect of motor development in your classroom?
 - a. Do you find that if you are trying to do an activity and none of the children are focused you will try an alternate activity?
6. Have you observed any motor development issues in the children in your classroom?
If yes, did you apply any intervention strategies?
 - a. Do you think your understanding comes from your experience more than classes that you have taken?
 - b. Do you find that you learned more from experience or professional development?
7. Are you aware of developmentally appropriate motor activities? Can you give an example?
8. Do you do any collaborative work with the physical education teacher (if available) in terms of motor development for your children?
 - a. Do you think if could make a connection back with the movement department you could encourage physical education student teachers to come into this program?

Appendix E

Survey

Thank you for volunteering to respond to this 10-minute survey about motor development in the early childhood environment. Although you may not personally benefit, this study is important because this research data will be used to inform teacher educators. There are no foreseeable risks, your responses are confidential, and you may refuse to answer particular questions or withdraw from this survey at any time.

How many years have you been teaching? _____

What age range are you?

18-25__ 26-36__ 36-45__ 46-50__ 51+__

Check the box that applies to you:

- Some vocational training in early childhood education
- Some college course in early childhood education
- Association degree in ECE or child development
- Child Development Associate
- Bachelor's degrees in ECE or child development
- Master's degree in ECE or child development

Signature

Date

Draw a line to match the learning guideline with an appropriate activity

- | | |
|---|--|
| 1. Build awareness of the directionality and position in space | Roll play dough into tiny balls with the finger tips |
| 2. Build finger dexterity | Play games that ask children to identify the various parts of their body |
| 3. Build body awareness strength and coordination through locomotion activities | Pretend to be various jumping creatures |
| 4. Use a variety of tools and materials to build grasp – and-release skills | Use both arms simultaneously to draw big circles on a blackboard |
| 5. Use both sides of the body to strengthen bilateral coordination | Using tongs to move objects from one container to another |
| 6. Strengthen hand grasp and flexibility | Use materials on vertical surfaces such as easels, chalkboards |
| 7. Build upper body strength and stability to gain controlled movement of shoulders | Use the thumb and forefinger to spin a top |
| 8. Use thumb/forefinger in pincer grasp | Manipulate playdough, clay and modeling materials of varying consistencies |
| 9. Listen to and use appropriate language describing the names and functions of parts of the human body | Trace a stencil or template |
| 10. Alternate the left and right sides of the body and cross the mid-line | Throw and catch objects |

11. Use eye-hand coordination, visual perception and tracking and visual motor skills in play activities

Painting on an easel

Do you do more gross motor or fine motor activities in your classroom? Explain.

How much structured time and unstructured time do the children have for movement activities?

Have you taken any classes or professional development for motor education or physical development?

Appendix F

Predispositions

Qualitative research is based on the interpretation of the data. The instrument used to collect and interpret the data is the researcher. Therefore, the experiences and attitudes that the researcher has can be used against them. The predisposition is discussed here to express the views that the researcher has to insure that although they have these views they also have intentions to keep them in check. It also talks about the experience that the researcher brings to the research.

My research is focused on understanding preschool educators' knowledge of motor development and the implementation of motor activities. I became interested in this topic during my undergraduate studies. I spent a lot of time doing observations and field reports for a number of classes in different preschool settings. During my student teaching I became more interested in the idea that I may have not had as well-rounded of an education as I need for the world of preschool education. Would there be others with the same feeling? I felt the need to learn more about physical education, feeling that if I knew more about PE I may have a better understanding of how to incorporate it into my philosophies and teachings.

I think it is important to understand the theory behind why an activity is done a certain way. There is also strength behind learning on the job and finding information from articles and others' sources. Other ways to gain information are from professional development training and other workshops. Experienced teachers can also have many stories of what works and what does not work. I think a mix of theory and experience is

important. There many aspects that come with both but an equal mix can be beneficial, so that theory informs practice.

As the primary researcher on this study I am a graduate student studying physical education. I have an undergraduate degree in Early Childhood and Care with a minor in Communications. I am licensed as a Lead Techer in a Preschool by the Department of Early Education and Care. I have spent the last six years working at a museum doing various jobs related to informal science education. Each summer I lead the preschool summer nature program for seven weeks.

As the researcher I chose to do this study after wondering about whether there is a lack of motor development activities in preschool classrooms or a lack of understanding among preschool teachers' knowledge of developmentally appropriate motor activities. The survey was created for the purpose for this study by the researcher. This is my first time designing research at this level. I have done research papers in the past but this is the first time I conducted a field study within the research. Because this is my first study I had a small learning curve that I had to overcome in order to understand the qualitative research and data analysis.

As the researcher I have hopes that this research has a significant impact or that at least it will start conversations. The significance of my research is that the development of best practices in preschool programs should include training of the teachers on how to design a well-rounded curriculum that devotes time not only to academics but also to motor skills as a main objective in a lesson. Early motor development is the basis for all future motor skills.

As this is qualitative research there is a peer debriefer to insure that the views expressed above will not cloud the judgment during the process of data analysis. The peer debriefer helped to talk about what the results were showing. The peer debriefer was also the person who was able to help look at the results and give critical feedback for what needed to be done.

Appendix G

The code log:

Env --- Environment: the space and interaction with which the children have in the room

Exp --- Experience: descriptive or verbal expression of experience

Aam --- Activities are mentioned: teachers or environment show activities

Kma --- Knowledge of motor activities: a knowledge is expressed or actively shown

Aen --- Activity engagement: the engagement of the children and teacher

Cwo --- Collaboration with others: when if collaboration is present

Pd --- Professional development: topic of further learning

Appendix H

Collection of Data	
Categories	<p>The data is color coded: Director is Blue, Teacher is Purple, Field notes are green and materials are orange</p> <ul style="list-style-type: none"> • The teacher said that music and dance is primary way that she does movement in the classroom for example the Raffi songs. Shake your sillies out and what is in my shoe. • The children are about to help the teacher control which songs they dance to by select the music on YouTube. The teacher would only pick from a certain channel but the children had control over their movement environment. (Just Dance Kids) • The teacher stops the videos and is inconstant on whether she is done with the activity or not. She allows the children show want to go to the other room to go. • Definitely movement is a big part of what we do...and finger plays different kinds of movements whether it is dancing or yeah it is a little bit of everything.

Through the interview and observations this is what the data revealed in research memos:	
Categories	Memos

Activity engagement	<ul style="list-style-type: none"> • Teacher allows for children to help pick out some of the songs which displays the teaching style and involves more engagement in the children (name that style) but the teacher is also not constant with when she will stop the activity and when each video will start. She does not have a fluidity to her lesson and engagement making there be a lot of standing time • The child and teacher go on walks taking the children around the campus and being able to visit the different places in the community. The walks give the them the ability to move and work their large muscles. Taking the children to the field with equipment gives them a chance to engage in activities that would not happen in the usual day. • Finger play and fine motor movements are most familiar although teacher did bring up ideas in the classroom they were one dimension. Dance is on activity and the same songs and dances activity the same muscles. The obstacles course is only done only rainy days.
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Appendix I

Lessons Learned about Collecting Qualitative Data:

This is the first time that I was able to conduct research of this kind, and as a result, I learned a lot about the process that goes into collecting qualitative data. It takes a lot of time to develop the measurements that are used in data collection. The part of the research that I had to think about is the human factor of the research. I had planned to do one thing but I was unable to accomplish that because I did not think about what type of response I would get or if I would get any responses back.

There are many lessons to be learned about collecting qualitative data. I think one important lesson I learned was about the timing of collecting data. When collecting qualitative data, I thought about the way to approach how to ask participants if they wanted to be part of the research study. The initial thought was to email the program directors to ask if they would be interested in being part of the study, but it proved to be unreliable to expect program directors to respond in a timely matter, if at all. I then changed my study to a case study and the collection of data was focused on one location and one teacher. I was able to gain access to the campus preschool and that helped with the collection of data. The program is accustomed to students coming into the program to observe. I was able to observe the teacher and the classroom, and the outside environment, as well as interview both the teacher and the director.

It was interesting to see the evolution of the data over time. When I visited the preschool I was there for one visit. I think in retrospect the amount of time that I visited could have been longer. The length of time in the classroom was not insufficient but in

the collection of data in a qualitative data I think that as much immersion as reasonable within the participants' environment would be ideal.

If I were to think about all the things I learned about the collection of data within qualitative data and I were to do this case study again I would give time a bigger consideration. I would also think about the type of center that I would go to collect the data. The environment and demographic of the center could have an influence on the type of services offered. In this case I went to a campus-based preschool where they had access to a dance program with student teachers. They also had access to field areas and other large spaces. For other centers, this type of access would likely not be the norm. Collecting data on a limiting factor needs to be thought of.

I would also consider the type of data collection that is being used. In qualitative data field notes, interviews along with materials are the measurements to use. Through this experience I have been able to develop these skills more concretely. At the start of the research project my skills in interviews and taking field notes was limited. I have not had many opportunities in which I was the one deciding what was being observed for critical thinking and for which I was designing the data collections means. I have been able to hone my craft for data collections as well as how to understand and use coding, and what to look for when collecting field notes.

The overall process of data collection in qualitative data research has taught me three basic ideas to remember. One is to remember the measurements that you choose need to work with the parameters of the study and also need to work for you. You do not want to do something that is overly complex for you but you also cannot oversimplify the

process. The second lesson is to remember the human factor. You cannot always assume a situation is going to work out the way you think it will in your head because many times it will not. People may not always respond the first time you send them something. People also may be reluctant to share things. The third thing I learned was that time is a critical factor, whether it is time to gather responses, time in the field or time looking over your data. Setting enough time aside to understand the data is also very important. These are the lessons that I learned throughout this process of collecting data for qualitative research.

Appendix J

Lessons Learned about Qualitative Data Analysis Procedures:

Qualitative data analysis is a new endeavor for me. The easiest way that I could look at it was to think about it one piece at a time. I felt that there were so many pieces to the analysis of the data that without having taken one piece at a time I would be overwhelmed with the task of understanding the data and being about to interpret what it was that I had collected.

I was given many different guides into how to go do my data analysis at the different stages. First I had to collect the data. Collecting the data was an experience that taught me lessons that I will be able to use in future research. I talked more about the collection process in the previous section. Once I had the data I think it was here that I took the lessons I learned from other people's experiences and started to mix them together and form them into a way that would fit my way of thinking and learning.

That was an important lesson I learned throughout the process of data analysis; that one thing does not work for everybody, but I could take something and tweak what they did into a way that would work for me. The transcribing takes a bit of tenacity and the ability to listen carefully. I also realized that I would have to listen again to the recording while reading along to insure that I had gotten everything right. Double checking was an important lesson to be learned throughout the whole process. Without that I think I could have missed one or two words.

In the process of learning and listening to people talk about the research they have done, and listening to lectures online, the ability to quickly find the data seemed

important. I found that an organization system needed to be established and I built one based on the idea of how the paper would be structured so I could find the data easily within each section.

Coding was difficult to understand. It took me a while and a lot of research to realize that themes and codes were synonymous terms. Once I established that, reading the data and finding the themes was easier because I was not looking or thinking about two different topics. After developing the themes and organizing the data I had a peer debriefer who would talk with me about what I was seeing and what I had for data. That experience helped me understand a greater part of the aspects of qualitative data because a peer debriefer is there to help you. They are not as invested with the research as you are. As a researcher your predispositions have the potential to impact your results, but with the peer debriefer there they can look at your interpretation and your analysis without those dispositions. I learned the importance of having that peer help to back your credibility.